MINNESOTA POLLUTION CONTROL AGENCY
and
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Date: **June 3, 1998**

SUBJECT: **Declaration of Strategy Approval for the Fridley Commons Park Well Field Site, Fridley, Minnesota**

FROM: **Gary L. Krueger**
MPCA Site Assessment Project Manager
and
Maureen Johnson
MPCA Remedial Project Manager

TO: **Site File**

[redacted]

Site Description

The Fridley Commons Park Well Field (Site) is a 50-acre active well field with eight public wells, open to the Prairie du Chien Aquifer. The well field serves a population of approximately 29,000 in the city of Fridley (City). Several other public water supply wells for other municipalities are also located within a four-mile radius of the Site. In February 1984, trichloroethylene (TCE) was detected in City well number nine. Subsequent testing detected several other organic chemicals in Commons Park wells. At the recommendation of the Minnesota Department of Health (MDH), the City took well number nine out of service in November 1989, due to contamination which exceeded federal drinking water standards. Other wells, while at various times indicating contamination from TCE, remained in service. The City has continued to monitor the affected wells as required by MDH. The Minnesota Pollution Control Agency (MPCA) has conducted investigations since the closure of well number nine in an attempt to identify a source. While over 50 potential contaminant sources have been identified through file searches, an exact source or sources of the contamination has not yet been identified. The Site was added to the state of Minnesota's Permanent List of Priorities, or state Superfund list, in June 1992.

Site History

The Site is an active well field, with eight public water supply wells. Four of these wells (well numbers six, seven, eight and nine) are open to the Prairie du Chien-Jordan (PdCJ) Aquifer, and the other four wells (well numbers two, three, four and five) are open to the Mt. Simon-Hinckley aquifer. Water from all of these wells is blended and is part of the City's municipal well systems that provides drinking water for approximately 29,000 people. The City receives its municipal water supply from a total of 13 wells. The City constructed well number one about one mile south of the Site in 1956. Well number one is a multi aquifer well with an open hole through the Franconia Ironton, Galesville, Eau Claire and Mount Simon Formations. The City and the local school district began purchasing Commons Park in 1958. Between 1960 and 1966, the City added wells two through nine, and a treatment plant to the municipal well system at the Site. Wells six through nine were originally completed in the hillside sand above the bedrock; these wells were deepened between 1969 and 1972. The wells were completed as bedrock wells open to the Prairie du Chien aquifer. In 1969 and 1970, the City added wells ten through thirteen to the municipal well system. Wells ten and eleven were installed at Locke Park and completed in the drift and Franconia aquifers, respectively. Well number twelve was completed in the Jordan aquifer in the northern area of the City, and Well number thirteen was completed in the Prairie du Chien aquifer near the Mississippi River.

Site Investigations/NPL Caliber Determination

In 1981, the City initiated a program for measuring volatile organic compounds (VOCs) in samples from its municipal wells. The first samples were collected from wells twelve and thirteen. VOCs were not detected in the samples from wells twelve and thirteen. Wells eight and nine, sampled in February 1984, were the first wells at the Site to be sampled and analyzed of VOCs. Trichloroethylene (TCE) was detected at a concentration of 11 micrograms per liter (ug/L) in the sample from well number nine; no VOCs were detected in the sample from well number eight.

In 1984, when TCE was first detected in the sample from well number nine, the TCE concentration was compared to the MDH recommended allowable limits (RALs). In 1984, the RAL for TCE was 27 ug/L. The RAL for TCE was a calculated estimate of the TCE concentration where one person out of a population of 100,000 people who drink two liters of TCE-affected water a day for 70 years would be expected to acquire cancer. The MDH replaced the RAL when the Health Risk Limits (HRLs) were promulgated under provision of the 1989 Ground-Water Protection Act. The HRL for TCE is 30 ug/L; it was calculated using the same basic assumptions as the RAL.

The U.S. Environmental Protection Agency (EPA) under the federal Safe Drinking Water Act regulates public water supplies. In 1989, TCE was added to the list of chemicals with maximum contaminant levels (MCLs) allowed by U.S. EPA under the Safe Drinking Water Act. The MCL for TCE is 5 ug/L. The MCL was calculated with consideration of the health risk and the technical feasibility of removing TCE from the water.

Analysis of water samples from other wells at the Site indicated that low levels of VOCs, predominantly TCE, were frequently present in samples from wells six, seven, eight and nine. All of these wells are completed in the Prairie du Chien aquifer. The highest TCE concentrations were typically measured in samples from well number nine. Although TCE was frequently detected in the filtered effluent water from the Commons Park Water Treatment Plant, TCE concentrations did not exceed the MCL until November 1989, when TCE in the effluent sample was reported at 8.7 ug/L.

In response to exceeding the MCL in the effluent water, well number nine was removed from service since the water from this well appeared to be the primary source of TCE.

In 1989, the City hired B.A. Liesch and Associates, Inc. (Liesch) to identify the source(s) of the contamination. Liesch installed three glacial drift monitoring wells in the well field and performed a file review to identify potential TCE sources within six miles of the Site. VOCs were not detected in the samples from the monitoring wells, and the source of the TCE was not identified. Liesch has continued to monitor the TCE contamination, and has routinely sampled and conducted pump tests at the Commons Park Wells for the City.

The MPCA conducted a screening site inspection at the Site in November 1991. MPCA staff sampled six of the wells located in the well field, and two of the monitoring wells installed by the City's consultant. Samples were analyzed by an U.S. EPA contract laboratory and by the laboratory routinely used by the City's consultant. Results from each lab were similar in the detection of TCE, and confirmed the release of TCE in wells six through nine of Site.

The Site was subsequently added to the state of Minnesota Permanent List of Priorities, or state Superfund List, in June 1992.

In May 1994, MPCA Site Assessment staff conducted an expanded site inspection (ESI) of the Site to assist in determining potential sources of TCE. Three additional monitoring wells were installed during the ESI. These monitoring wells were installed into the Prairie du Chien-Jordan aquifer. One of the Prairie du Chien-Jordan Commons Park Wells was samples (well number seven), along with three other Off-Site production wells. Samples collected from this investigation were analyzed by U.S. EPA. Only the municipal well and one of the Off-Site production wells showed detections of TCE. A source(s) of the TCE contamination was not fully determined by the MPCA-conducted ESI.

In June 1995, the MPCA contracted with Barr Engineering (Barr) to evaluate the TCE contamination in the Site, review the available information, and recommend a course of action with regards to water supply needs for the City. Barr concluded that based on all the investigations that have been conducted to date, a source of TCE contamination in the well field has not yet been identified. Currently, well number nine is not used, and well numbers six, seven and eight are only periodically used for meeting of peak needs during the summer. When wells six, seven, and eight are used however, levels of TCE in those wells have tended to increase, and could result in additional MCL exceedances.

[redacted]

STATE OF MINNESOTA

OFFICE OF THE GOVERNOR
130 STATE CAPITOL
SAINT PAUL 55155

ARNE H. CARLSON
GOVERNOR

RECEIVED
MAY 28 1998
U.S. EPA REGION 5
OFFICE OF REGIONAL ADMINISTRATOR

Mr. David A. Ulrich
Acting Regional Administrator
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3511

Dear Mr. Ulrich:

Thank you for your recent letter regarding the Fridley Commons Park Well Field site (Site).

The state of Minnesota concurs with U.S. Environmental Protection Agency's (EPA) assessment that this Site poses a significant threat to public health or the environment. The Minnesota Pollution Control Agency (MPCA) has conducted investigations at the Site to determine the source or sources of ground-water contamination in the Fridley area. Based on those investigations, the MPCA has determined that additional Superfund response actions are necessary to address the adverse impacts to the city of Fridley municipal drinking water supply.

Therefore, on behalf of the state of Minnesota, I fully support the proposed inclusion of this Site on the National Priorities List.

Warmest regards,

ARNE H. CARLSON
Governor

cc: The Honorable Nancy Jorgenson, Mayor, City of Fridley

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NPL Characteristics Data Collection Form

(Version 2.0, October 1992)

Site Name: Fridley Commons Park Well Field

Region: 5 State: Minnesota

This form should be completed for all sites being proposed for addition to the NPL and included as part of the complete HRS package submitted to EPA Headquarters.

Office of Emergency and Remedial Response
U.S. Environmental Protection Agency

NPL Characteristics Data Collection Form

General Instructions

The NPL Characteristics Data Collection Form is designed to standardize the site information collected for input into the NPL Characterization Data Base. This data base serves as a repository for general information about NPL sites and is used to respond to queries about NPL sites from a variety of sources including the general public, the press, other government agencies, and members of Congress. The primary source materials for completing this form are Regional site file documents (e.g., PA and SI reports), along with the site's HRS scoring package. Although much of the information needed to complete the form is expected to be available in the HRS scoring package, other sources in a site file may need to be consulted for some questions. If definitive data are not available in the site file to answer a question, estimates based on best professional judgment and other sources of information are acceptable.

As you complete the NPL Characteristics Data Collection Form, keep the following points in mind.

- Please complete the form in ink, and print legibly.
- Use the most accurate level of information available (e.g., SI-level information has priority over PA-level information).
- Try to use the listed response options when answering a question, and use "unknown" and "other" responses ***only*** when absolutely necessary. If, however, the available response options for a question are not adequate to accurately describe the site, use the "other" response and provide a brief explanation in the space provided.
- Use the margins to explain responses that do not match listed response options or to provide clarifying information. If you need additional room to clarify responses, use the space provided in Appendix C.
- Some questions may go beyond the scope of the HRS scoring package (e.g., may relate to pathways not scored). Answer these questions with the best information available, making reasonable "educated guesses" if necessary.
- "Current," as used in this form, should be interpreted as the general time period of HRS scoring package preparation.
- "Principal contamination," as used in this form, should be interpreted as the contamination that is primarily responsible for a site's proposal to the NPL.

Please respond to ***all*** questions with the answer that you believe best represents the site conditions, given the information available at the time of HRS scoring package preparation. Do ***not*** skip questions except where specifically directed to do so.

1. Basic Identifying Information

1.1 Site Name (as entered in CERCLIS): Fridley Commons Park Well Field

1.2 CERCLIS ID Number: MND985701309

1.3 Name of Person(s) Completing Form: Gary L. Krueger
Affiliation (agency/company): Minnesota Pollution Control Agency
Phone Number: (612) 296-6139

1.4 Date Form Was Completed: 03 31 98 (mm/dd/yy)

1.5 Site Location: City: Fridley State: Minnesota
County: Anoka Zip Code: 55432

1.6 Site Coordinates (in degrees, minutes, seconds, and tenths of seconds):

45° 04' 50._" North Latitude 93° 15' 20._" West Longitude

If tenths of seconds are unknown, use "0" as a default value. If necessary, refer to Appendix E of EPA's 1991 PA guidance document for directions on how to determine coordinates.

1.7 **ATSDR HEALTH ADVISORY.** Has an Agency for Toxic Substances and Disease Registry (ATSDR) Health Advisory been issued?

☐ Yes ☑ No

If yes, what was the date of issue? _____ (mm/dd/yy)

1.8 **HOW INITIALLY IDENTIFIED.** How was the site initially identified to EPA? If this information is not available in the HRS scoring package, check the PA narrative or other parts of the site file. (check one)

☐ Citizen complaint (including PA petition)
☑ State/local program
☐ CERCLA notification
☐ RCRA notification
☐ Other Federal program (specify) _____
☐ Incidental (e.g., identified while discovering/investigating another NPL site)
☐ Anonymous
☐ Other (specify) _____
☐ Unknown

1.9 **UNKNOWN SOURCE.** Does the site consist exclusively of contaminated ground water or contaminated surface water sediments with ***no identifiable primary source(s)***? (check one)

☑ Yes, ground water plume(s)
☐ Yes, surface water sediments
☐ No

STOP HERE. If answer to question #1.9 is "Yes", proceed to Appendix A and complete the Supplemental Data Collection Form, then *return* to Section 6 (page 9) of this form. If answer is "No", continue to Section 2 of this form.

2. General Site Description

2.1 **SETTING.** What is the site setting? (check one)

☐ Large city: within boundaries of a city with a population ≥ 100,000
☐ Small city/town: within boundaries of a city/town with a population ≥ 10,000 and < 100,000
☐ Suburban: within immediate suburbs of a city
☐ Rural: outside of city and suburban areas

2.2 **LAND USE.** What is the current land use(s) within 1 mile of the site? (check all that apply)

☐ Industrial
☐ Commercial
☐ Residential
☐ Agricultural
☐ Forest/fields/wetlands/other undeveloped
☐ Parks/recreation
☐ School/university/day care
☐ Military
☐ Other (specify) _____

If ***readily available information*** indicates that projected future land use(s) within 1 mile of the site may ***differ*** from the current use(s) checked above (e.g., building a mobile home park or other new residential area adjacent to a former landfill), write them in the blank that follows. Use the response options listed above if possible.

_____
_____
_____

2.3 **AREA.** What is the approximate area of contamination (i.e., total area that includes all sources of contamination and other areas where contamination has come to be located, plus the area between the sources)? If the site is large with only a small contaminated portion, only the area of the contaminated portion should be estimated. If the approximate area of contamination cannot be estimated, use the area within the property boundary. (check one)

☐ ≤ 5 acres
☐ > 5 and ≤ 20 acres
☐ > 20 and ≤ 100 acres
☐ > 100 acres
☐ Unknown

2.4 **OWNER AND OPERATOR.** What/who are the current owner(s) and operator(s) of the site, and who were the owner(s) and operator(s) at the time of principal contamination? If the owner and operator are the same, then check the same box under "Owner(s)" and "Operator(s)." If the current owner and/or operator and the owner and/or operator at time of principal contamination are the same, then check the same box under "CURRENT" and "AT TIME OF CONTAMINATION." (check all that apply, including at least one in each column; "NA" indicates that a response is not applicable)

CURRENT			AT TIME OF CONTAMINATION	
Owner(s)	**Operator(s)**		**Owner(s)**	**Operator(s)**
☐	☐	Private - industrial/commercial	☐	☐
☐	☐	Private - small business	☐	☐
☐	☐	Private - individual	☐	☐
☐	☐	County/city	☐	☐
☐	☐	State	☐	☐
☐	☐	Federal	☐	☐
☐	☐	Indian lands	☐	☐
☐	☐	Bankruptcy/receivership	NA	NA
NA	☐	None/currently inactive or abandoned	NA	NA
NA	☐	None/spill or other one-time event	NA	☐
☐	NA	Other (specify) _____	NA	NA
NA	☐	Other (specify) _____	NA	NA
NA	NA	Other (specify) _____	☐	NA
NA	NA	Other (specify) _____	NA	☐
NA	NA	Unknown	☐	NA
NA	NA	Unknown	NA	☐

2.5 **SPILL/OTHER ONE-TIME EVENT.** Is this site the result of a one-time spill (e.g., truck, rail car, or barge accident) or other one-time event (e.g., one-time illegal dumping), with no other ongoing waste management or waste generation activities on site? (check one)

☐ Yes, specify year of spill/other one-time event _____
☐ No

If answer is "Yes" to this question, proceed to Section 3. If answer is "No," continue to question #2.6.

2.6 **YEARS OF OPERATION.** What are the beginning and ending years of operation at the site? "Operation" includes any activity occurring at the site (other than site remediation and related site investigation activity), and does ***not*** necessarily have to involve waste generation and/or management. Aggregated sites that have a combination of active and inactive/abandoned operations, and active sites that have had periods of inoperation during their existence, should be considered currently operating. For these sites, indicate the beginning year of their earliest operation. If sites such as this are no longer operating, indicate the beginning year of their earliest operation and the ending year of their latest operation. (check one)

☐ Currently operating: from (beginning year) _____
☐ Inactive or abandoned: from (beginning year) _____ to (ending year) _____
☐ Unknown (only if ***no*** historical information is available)

2.7 **YEARS OF WASTE MANAGEMENT ACTIVITIES.** What are the beginning and ending years of waste management at the site? Applicable waste management activities include generation, treatment, and/or recycling of waste containing hazardous substances and/or receipt of such wastes from off-site sources. Aggregated sites that have a combination of active and inactive/abandoned waste management activities, and sites that are actively managing waste that have had periods without waste management activities during their existence, should be considered currently managing waste. For these sites, indicate the beginning year of their earliest waste management activity. If sites such as this are no longer managing waste, indicate the beginning year of their earliest activity and the ending year of their latest activity. All responses should be consistent with responses given for question #2.6. (check one)

☐ Currently managing waste: from (beginning year) _____
☐ No longer managing waste: from (beginning year) _____ to (ending year) _____
☐ Unknown (only if ***no*** historical information is available)

3. Site Type

3.1 **SITE ACTIVITIES.** Which of the following best describe current activities/operations/conditions at the site (i.e., on-site activities)? Also, identify all former activities that are at least partly responsible for the principal contamination at the site. Check all responses that apply, including at least one in each column; if a primary item is checked, at least one sub-item also must be checked (e.g., if "Federal facility" is checked, a sub-item such as "DOD" also must be checked).

Current	Former	
☐	☐	Federal facility (must also indicate Federal in question #2.4)
☐	☐	DOD
☐	☐	DOE
☐	☐	DOI (e.g., Bureau of Land Management)
☐	☐	USDA (e.g., Forest Service)
☐	☐	Other (specify) _____
☐	☐	Manufacturing/processing
☐	☐	Chemicals and allied products
☐	☐	Pesticides
☐	☐	Other (specify) _____
☐	☐	Primary metals/mineral processing
☐	☐	Petroleum refining
☐	☐	Metal fabrication/finishing/coating and allied industries
☐	☐	Lumber and wood products/pulp and paper
☐	☐	Wood preserving/treatment
☐	☐	Other (specify) _____
☐	☐	Plastic and rubber products
☐	☐	Electronic/electrical equipment
☐	☐	Electric power generation and distribution
☐	☐	Other (specify) _____
☐	☐	Mining
☐	☐	Coal
☐	☐	Oil and gas
☐	☐	Metals
☐	☐	Non-metal minerals
☐	☐	Other (specify) _____

(response options for question #3.1 continue on next page)

Current	Former	
☐	☐	Waste management as ***principal*** activity (i.e., no manufacturing or other principal activity)
☐	☐	Municipal solid waste landfill
☐	☐	RCRA Subtitle C TSDF (non-generator)
☐	☐	Other industrial waste facility, including landfill (non-generator)
☐	☐	Radioactive waste treatment, storage, disposal (non-generator)
☐	☐	Recycling
☐	☐	Batteries
☐	☐	Used/waste oil
☐	☐	Automobiles/scrap metal/tires
☐	☐	Drums
☐	☐	Chemicals/chemical wastes (e.g., solvent recovery)
☐	☐	Other (specify) _____
☐	☐	Publicly owned treatment works/septic tanks/other sewage treatment
☐	☐	Illegal/open dump
☐	☐	Other (specify) _____
☐	☐	Transportation (e.g., railroad yard, airport, barge docking site)
☐	☐	Product storage/distribution as ***principal*** activity
☐	☐	Retail/commercial
☐	☐	Agricultural
☐	NA	Residential
☐	NA	None/currently inactive or abandoned
NA	☐	Spill or other one-time event, with no other activities (must also indicate spill in question #2.5)
☐	☐	Other (specify): _____

3.2 **WASTE TREATMENT, STORAGE, AND DISPOSAL ACTIVITIES.** What treatment, storage, and/or disposal activities occur/occurred at the site? (check all that apply)

☐ Municipal landfill (must also indicate municipal solid waste landfill in question #3.1)
☐ Industrial landfill
☐ Surface impoundment (primarily liquid)
☐ Waste pile (primarily solid, covered or uncovered)
☐ Drum/container storage (intentional storage in specified areas)
☐ Tank - above ground (if tank type is unknown check here)
☐ Tank - below ground
☐ Discharge to sewer/surface water (intentional permitted or illegal discharge; ***not*** secondary runoff)
☐ Recycling (must also indicate recycling in question #3.1)
☐ Incineration/other combustion activity (including burn pits)
☐ Underground injection well
☐ Land application/treatment
☐ Drain/leach field
☐ Illegal dumping (unpermitted dumping by site owner/operator in undesignated disposal area)
☐ Unauthorized dumping by a party other than the site owner/operator
☐ None/spill or other one-time event (must also indicate spill in question #2.5)
☐ Other (specify) _____

4. Waste Description

4.1 **ON-SITE/OFF-SITE GENERATION.** Is an on-site or off-site generator responsible for the waste disposed or deposited on site that resulted in the principal contamination? For consistency, recycling facilities should be considered on-site generators. (check one)

- ☐ On-site generator only
- ☐ Off-site generator(s) only
- ☐ Both on-site and off-site generators

4.2 **ENTITY THAT GENERATED THE WASTE.** What is the source(s) of the waste disposed or deposited on site that resulted in the principal contamination (***not*** necessarily the entity that generated the original product)? Note that this question is different from question #3.1 regarding site activities, although the response options are similar. This question targets the generator(s) of the waste present on site, not the site activities. However, if the waste is/was generated entirely on site, then the response(s) to this question should match the response(s) to question #3.1. (check all that apply)

- ☐ Federal facility
  - ☐ DOD
  - ☐ DOE
  - ☐ DOI
  - ☐ USDA
  - ☐ Other (specify) _____
- ☐ Manufacturing
  - ☐ Chemicals and allied products
    - ☐ Pesticides
    - ☐ Other (specify) _____
  - ☐ Primary metals/mineral processing
  - ☐ Petroleum refining
  - ☐ Metal fabrication/finishing/coating and allied industries
  - ☐ Lumber and wood products
    - ☐ Wood preserving/treatment
    - ☐ Other (specify) _____
  - ☐ Plastic and rubber products
  - ☐ Electronic/electrical equipment
  - ☐ Electric power generation and distribution
  - ☐ Other (specify) _____
- ☐ Mining
  - ☐ Coal
  - ☐ Oil and gas
  - ☐ Metals
  - ☐ Non-metal minerals
  - ☐ Other (specify) _____
- ☐ Recycling
  - ☐ Batteries
  - ☐ Used/waste oil
  - ☐ Automobile junkyard/scrap metal/tires
  - ☐ Drums
  - ☐ Chemicals/chemical wastes (e.g., solvent recovery)
  - ☐ Other (specify) _____

(response options for question #4.2 continue on next page)

- ☐ Transportation (e.g., railroad yard, airport, barge docking site)
- ☐ Product storage/distribution facility
- ☐ Retail/commercial
- ☐ Agricultural
- ☐ Residential
- ☐ Laboratory/hospital
- ☐ Construction/demolition
- ☐ Site remediation (e.g., wastes from site cleanups)
- ☐ Waste management (e.g., leachate or ash from waste treatment processes)
- ☐ Other (specify) _____

4.3 **PHYSICAL STATE OF WASTE.** What is the physical state(s) of the hazardous substance-containing waste(s) deposited or detected on site? (check all that apply)

- ☐ Solid
- ☐ Liquid
- ☐ Sludge
- ☐ Gas

4.4 **GENERAL WASTE TYPES.** What are the waste types deposited or detected on site? Indicate all the waste types present on site under "Overall." If three or fewer waste types are known to comprise the majority (i.e., over 50%) of the waste volume on site, indicate their types under "Predominant." Otherwise, leave the "Predominant" column blank. (check all that apply)

Overall	Predominant	
☐	☐	Organic chemicals
☐	☐	Metals
☐	☐	Non-metal inorganic chemicals
☐	☐	Strong acids/bases
☐	☐	Chlorinated solvents
☐	☐	Pesticides
☐	☐	Paints/pigments
☐	☐	Oily wastes
☐	☐	Explosives
☐	☐	Fuels/propellants
☐	☐	Fly and bottom ash
☐	☐	POTW sludge
☐	☐	Still and tank bottoms
☐	☐	Contaminated soil/sediment
☐	☐	Radioactive wastes
☐	☐	Other (specify) _____

4.5 **SPECIFIC WASTE CONSTITUENTS.** Which of the following waste constituents have been deposited or detected on site? (check all that apply, and make sure that response is consistent with response to question #4.4)

- ☐ Asbestos
- ☐ Creosote
- ☐ Cyanides
- ☐ Dioxins (e.g., TCDD)
- ☐ Lead
- ☐ Pentachlorophenol (PCP)
- ☐ Polychlorinated biphenyls (PCBs)
- ☐ Polycyclic aromatic hydrocarbons (PAHs)
- ☐ None of the above

4.6 **QUANTITY OF WASTE.** What is the highest HRS hazardous waste quantity factor value among the pathways scored, regardless of which tier(s) (A, B, C, and/or D) was used in scoring? (check one)

☐ 1
☐ 10
☐ 100
☐ 10,000
☐ 1,000,000

4.7 **WASTE ACCESSIBILITY.** Is the waste on site currently accessible to the public (e.g., is site access unrestricted so people can potentially come into direct contact with contaminated materials)? Items to be considered when judging accessibility include, for example, presence or absence of a complete cover over the waste area and a secure fence around the site. A site with natural access restrictions (e.g., steep terrain) also can be considered inaccessible. Do not count on-site workers as part of the public when answering this question. (check one)

☐ Yes
☐ No
☐ Unknown

5. Demographics

For this section, do not directly use the population factor values calculated in the HRS and entered in HRS scoresheets. Use actual (i.e., unweighted, unadjusted) population figures, which should be available in the HRS supporting documentation.

5.1 **NUMBER OF WORKERS ON SITE.** What is the current number of workers present on site (not including workers involved in response activities)? (check one)

☐ 0
☐ ≥ 1 and ≤ 10
☐ ≥ 11 and ≤ 100
☐ ≥ 101 and ≤ 1,000
☐ > 1,000
☐ Unknown

5.2 **DISTANCE TO POPULATION.** What is the shortest distance from any source or area of contamination at the site to the nearest residential individual (include all persons occupying homes, apartments, businesses, or schools)? If contamination has migrated off site onto the property of a nearby resident(s), then check the box next to "0 miles." If the source or contaminated area is not clearly identified, use distance from the site property boundary. (check one)

☐ 0 miles (i.e., on site)
☐ > 0 and ≤ 1/4 mile
☐ > 1/4 and ≤ 1/2 mile
☐ > 1/2 and ≤ 1 mile
☐ > 1 and ≤ 4 miles
☐ > 4 miles

5.3 **POPULATION.** What is the total residential population within 1 mile and 4 miles of the site (include all persons occupying homes, apartments, businesses, or schools)? (check one in each column)

Within 1 mile	Within 4 miles	
☐	☐	0
☐	☐	> 0 and ≤ 10
☐	☐	> 10 and ≤ 100
☐	☐	> 100 and ≤ 1,000
☐	☐	> 1,000 and ≤ 10,000
☐	☐	> 10,000 and ≤ 100,000
☐	☐	> 100,000
☐	☐	Unknown

6. Water Use

For purposes of this section, "local" refers to ground water withdrawals within 4 miles and surface water withdrawals within 15 "in-water" miles (e.g., downstream miles for streams and rivers) of the site (i.e., within HRS target distance limits).

6.1 **TOTAL DRINKING WATER POPULATION SERVED.** What is the total population served by local ground and surface water sources of drinking water? Use actual population numbers and not adjusted values taken directly from HRS scoresheets. For blended systems, use total population served instead of prorated values. Note that the total population served does not have to reside within the HRS target distance limits, only the drinking water supply withdrawal point(s) needs to be within the limits. (check one in each column)

Ground	Surface	
☐	☐	≤ 10
☐	☐	> 10 and ≤ 100
☐	☐	> 100 and ≤ 1,000
☐	☐	> 1,000 and ≤ 10,000
☑	☐	> 10,000 and ≤ 100,000
☐	☐	> 100,000
☐	☐	Not applicable (no drinking water withdrawals within HRS target distance limits)

6.2 **TYPE OF DRINKING WATER SUPPLY SYSTEM.** What type(s) of local drinking water supply system(s) is present? "Public" should be checked for any central water supply system, even if operated by a private entity. (check all that apply)

Ground	Surface	
☑	☐	Public (serves over 25 people; e.g., municipal systems)
☐	☐	Private (e.g., individual wells)
☐	☐	Unknown
☐	☐	Not applicable (no drinking water withdrawals within HRS target distance limits)

6.3 **OTHER GROUND WATER USES.** What are the other uses of ground water withdrawn within 4 miles of the site? (check all that apply)

- ☐ Irrigation
- ☐ Stock watering
- ☑ Commercial uses (e.g., food preparation, aquaculture)
- ☑ Industrial process/cooling
- ☐ Recreation (e.g., water supply for municipal swimming pool, infiltration into lakes used for recreation)
- ☐ Other (specify) _____
- ☐ None
- ☐ Unknown

6.4 **DEPTH TO AQUIFER.** What is the approximate depth from the ground surface to the uppermost usable aquifer (i.e., an aquifer having sufficient yield and water quality to be usable as drinking water or for other beneficial uses) beneath the site? (check one)

- ☐ ≤ 10 feet
- ☐ > 10 and ≤ 25 feet
- ☐ > 25 and ≤ 50 feet
- ☑ > 50 and ≤ 100 feet
- ☐ > 100 feet
- ☐ Unknown

6.5 **OTHER SURFACE WATER USES.** What are the other uses of surface water withdrawn within 15 "in-water" miles of the site? (check all that apply)

- ☐ Not currently used, but designated by the state for potential drinking water use
- ☑ Recreational fishing
- ☑ Other recreation
- ☐ Irrigation
- ☐ Stock watering
- ☐ Industrial process/cooling
- ☐ Commercial fishery, including aquaculture
- ☑ Other commercial uses
- ☐ Other (specify) _____
- ☐ None
- ☐ Unknown

6.6 **TYPE OF SURFACE WATER ADJACENT TO/DRAINING SITE.** What are the type(s) of surface water adjacent to/draining the site that could potentially be affected by overland runoff from the site (i.e., are within 2 miles of any source)? Indicate whether the water body is known or suspected of being contaminated by the site. "Yes" would indicate that the surface water body meets the HRS criteria for observed release. "Suspected" would indicate that there is some evidence of contamination that is attributable to the site, but the surface water body does not meet the HRS criteria for observed release. (check all that apply)

	Contaminated?
☐ Intermittent stream	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Perennial stream	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ River (> 1,000 cfs annual avg. flow)	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Lake/reservoir	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Pond	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Bay	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Ocean	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Drainage ditch	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Canal	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ Other (specify) _____	☐ Yes ☐ Suspected ☐ No ☐ Unknown
☐ No surface water within 2 miles	
☐ Unknown	

7. Sensitive Environment and Reported Environmental Damage Information

7.1 **EXISTENCE OF SENSITIVE OR POTENTIALLY VULNERABLE ENVIRONMENT.** Is the site in or near (i.e., within a 4-mile radial distance, or for surface water within 15 "in-water" miles) an HRS-designated sensitive environment(s) or other potentially vulnerable environment(s)? (check all that apply)

- ☑ Yes, HRS-designated sensitive environment(s)
  - ☐ Wetland
  - ☐ Habitat used by Federal or state designated endangered or threatened species
  - ☑ Other (specify) Mississippi River National Recreation Area
- ☐ Yes, other potentially vulnerable environment(s) (see Appendix B for definitions)
  - ☐ Karst terrain
  - ☐ Seismic impact area
  - ☐ 100-year floodplain
  - ☐ Unstable terrain
  - ☐ Vulnerable ground water (class I, as defined by EPA)
  - ☐ Wellhead protection area
  - ☐ Other (specify) _____
- ☐ No
- ☐ Unknown

7.2 **HUMAN HEALTH/BIOLOGICAL IMPACTS.** Have human health or biological impacts attributable to the site been reported or observed? (check all that apply)

- ☐ Yes
  - ☐ Human health
  - ☐ Flora (e.g., stressed vegetation)
  - ☐ Fauna (e.g., fish kills, wildlife impacts)
- ☐ No
- ☑ Unknown

8. Response Actions

8.1 **TYPE OF RESPONSE ACTION.** What type(s) of response actions has already occurred at or near the site? (check all that apply)

- ☐ Action has been taken to reduce an immediate threat of fire or explosion
- ☐ Waste has been physically removed from the site
- ☐ Waste has been treated/stabilized/contained on site
- ☐ Site access has been restricted in response to the contamination
- ☑ Drinking water well(s) has been closed (on or off site)
- ☐ Alternate water supply(ies) has been provided (on or off site)
- ☐ Residents have been relocated
- ☐ Other (specify) _____
- ☐ None

8.2 **AUTHORITY RESPONSIBLE FOR RESPONSE ACTION.** Who performed (or contracted for) the response action(s)? (check all that apply)

- ☐ EPA under authority of CERCLA
- ☐ EPA under other authority
- ☐ Other Federal agency (specify) _____
- ☑ State/local authority
- ☐ Private party
- ☐ Other (specify) _____
- ☐ Not applicable (check only if checked "None" in question #8.1)

STOP HERE. Section 9 will be completed by a Headquarters QA reviewer.

REVIEW OF COMPLETED FORM. When you have completed Sections 1 through 8 of the NPL Characteristics Data Collection Form, please check to ***make sure*** that:

(1) All questions are answered, except for ones that you were specifically directed to skip; and

(2) All questions have been answered such that the responses are internally consistent, especially those in Sections 2 and 3. For example, if the site is the result of a spill or other one-time event, the responses for questions #2.4, #2.5, #3.1, and #3.2 should be consistent, while if the site is inactive or abandoned, the responses for questions #2.4, #2.6, #2.7, and #3.1 should be consistent.

9. Questions to be Completed by Headquarters QA Reviewer

9.1 Name of QA Reviewer: John Miller

Affiliation (agency/company): Marasco Newton Group, Ltd.

Phone Number: (703) 247-4089

9.2 Date QA Completed For This Form: 08 / 27 / 98 (mm/dd/yy)

9.3 NPL Proposed Rule Number (i.e., NPL "Update" number): 26

9.4 U.S. Congressional District Number: 6

9.5 **DISCOVERY DATE.** What is the date the EPA Region was notified of the hazardous waste release/site? (should match site assessment CERCLIS information) If the day and/or month is unknown use "01" as a default value for these entries.

02 / 20 / 91 (mm/dd/yy)

9.6 **DATE OF PRELIMINARY ASSESSMENT (PA).** What is the date of the PA? (should match site assessment CERCLIS information) If the day and/or month is unknown use "01" as a default value for these entries.

09 / 20 / 91 (mm/dd/yy)

9.7 **DATE OF SITE INVESTIGATION (SI).** What is the date of the SI? (should match site assessment CERCLIS information) If the day and/or month is unknown use "01" as a default value for these entries.

07 / 06 / 92 (mm/dd/yy)

9.8 **RCRA SUBTITLE C STATUS.** What is the RCRA Subtitle C status of the site? (check all that apply)

- ☐ RCRA Subtitle C TSDF(s) that meets listing policy
  - ☐ Bankrupt
  - ☐ Loss of interim status facility (LOIS)
  - ☐ Non-filer or late filer
  - ☐ Pre-HSWA permittee
  - ☐ Protective filer
  - ☐ Converter
- ☐ Large quantity hazardous waste generator
- ☐ Small quantity hazardous waste generator
- ☑ Not applicable (e.g., non-generator or very small quantity generator)

9.9 **HRS SCORE.** What is the HRS site score (as proposed)? 50.00

9.10 **HRS PATHWAYS SCORED.** Which HRS pathways were scored, and for which pathways has observed release/contamination been documented? (check all that apply and provide score, as proposed)

Pathways Scored	Score	Observed Release/ Contamination
☑ Ground water	100.00	☑
☐ Surface water (overland/flood)		☐
☐ Drinking water threat		
☐ Human food chain threat		
☐ Environmental threat		
☐ Surface water (ground water to surface water)		☐
☐ Drinking water threat		
☐ Human food chain threat		
☐ Environmental threat		
☐ Soil exposure		☐
☐ Residential population threat		
☐ Nearby population threat		
☐ Air		☐
☐ None (ATSDR or state top priority site)		

Appendix A
Supplemental Data Collection Form for Unknown Source Sites

This supplemental form should be completed ***only*** for unknown source sites (i.e., those sites that consist exclusively of contaminated ground water or contaminated surface water sediments with ***no identifiable primary source(s)***). The questions and response options in Sections 2, 3, 4, and 5 of the standard data collection form that are not applicable to unknown source sites have been eliminated from this supplemental form. The general instructions for the standard data collection form apply to this form as well.

A.1 **SETTING.** What is the site setting? (check one)

- ☐ Large city: within boundaries of a city with a population ≥ 100,000
- ☑ Small city/town: within boundaries of a city/town with a population ≥ 10,000 and < 100,000
- ☐ Suburban: within immediate suburbs of a city
- ☐ Rural: outside of city and suburban areas

A.2 **LAND USE.** What is the current land use(s) within 1 mile of the site? (check all that apply)

- ☑ Industrial
- ☑ Commercial
- ☑ Residential
- ☐ Agricultural
- ☐ Forest/fields/wetlands/other undeveloped
- ☑ Parks/recreation
- ☑ School/university/day care
- ☑ Military
- ☐ Other (specify) _____

If ***readily available information*** indicates that projected future land use(s) within 1 mile of the site may ***differ*** from the current use(s) checked above (e.g., building a mobile home park or other new residential area adjacent to a former landfill), write them in the blank that follows. Use the response options listed above if possible.

_____

_____

_____

A.3 **AREA.** What is the approximate area of contamination (i.e., total area that includes all sources of contamination and other areas where contamination has come to be located, plus the area between the sources)? If the approximate area of contamination cannot be estimated, use the area within the property boundary. (check one)

- ☐ ≤ 5 acres
- ☐ > 5 and ≤ 20 acres
- ☐ > 20 and ≤ 100 acres
- ☐ > 100 acres
- ☑ Unknown

A.4 **GENERAL WASTE TYPES.** What are the waste types deposited or detected on site? Indicate all the waste types present on site under "Overall." If three or fewer waste types are known to comprise the majority (i.e., over 50%) of the waste volume on site, indicate their types under "Predominant." Otherwise, leave the "Predominant" column blank. (check all that apply)

Overall	Predominant	
☑	☐	Organic chemicals
☐	☐	Metals
☐	☐	Non-metal inorganic chemicals
☐	☐	Strong acids/bases
☑	☑	Chlorinated solvents
☐	☐	Pesticides
☐	☐	Paints/pigments
☐	☐	Oily wastes
☐	☐	Explosives
☐	☐	Fuels/propellants
☐	☐	Fly and bottom ash
☐	☐	POTW sludge
☐	☐	Still and tank bottoms
☐	☐	Contaminated soil/sediment
☐	☐	Radioactive wastes
☐	☐	Other (specify) _____

A.5 **SPECIFIC WASTE CONSTITUENTS.** Which of the following waste constituents have been deposited or detected on site? (check all that apply, and make sure that response is consistent with response to question #A.4)

- ☐ Asbestos
- ☐ Creosote
- ☐ Cyanides
- ☐ Dioxins (e.g., TCDD)
- ☐ Lead
- ☐ Pentachlorophenol (PCP)
- ☐ Polychlorinated biphenyls (PCBs)
- ☐ Polycyclic aromatic hydrocarbons (PAHs)
- ☑ None of the above

Return to Section 6 (page 9) of the Data Collection Form.
Do *Not* Complete Sections 2, 3, 4, and 5.

Appendix B
Definitions of Potentially Vulnerable Environments[1]

Class I Ground Waters: Ground waters that are highly vulnerable to contamination and are either (1) irreplaceable as a source of drinking water to a substantial population or (2) ecologically vital.

Karst Terrain: Areas where karst topography, with its characteristic surface and subterranean features, is developed as a result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terrain include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind alleys.

Seismic Impact Areas: Areas where the probability is greater than or equal to 10 percent that the maximum horizontal acceleration in firm ground or rock at a particular site will equal or exceed 0.10 g (expressed as a percentage of the earth's gravitational pull (g)), within a time period of 250 years. Horizontal ground acceleration is defined as maximum change in velocity over time relative to horizontal movement of the earth's surface as measured at a particular point during an earthquake. This parameter is used to calculate the acceleration values for any particular area and is derived from equations relating to the area's geology and its past seismicity.

Unstable Terrain: Areas capable of impairing the integrity of an engineered structure as a result of natural events or human activities. Relevant natural events include, but are not limited to, localized ground subsidence; differential settling, collapse and slope failure; sinkhole formation in karst terrains; liquefaction; and hydrocompaction. Relevant human activities include, but are not limited to, construction operations; flood controls; ground water pumping, injection, and withdrawal; resource extraction; storm water drainage; and seepage from human-made water reservoirs.

Wellhead Protection Areas: Areas designated by the states to protect wells in recharge areas of public drinking water supplies, under authority of Section 1428 of the Safe Drinking Water Act.

100-year Floodplain: Any area that is subject to a one percent or greater chance of flooding in any given year from any source. For riverine systems, both the floodway and the floodway fringe are included in the 100-year floodplain.

[1] To be used in responding to question #7.1.

Appendix C
Additional Comments

Use this space to further clarify or explain responses to questions in the NPL Data Collection Form or Supplemental Data Collection Form For Unknown Source Sites. When clarifying or explaining a response, please ***make sure to provide the question number***. Attach additional sheets if necessary.